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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,327

09/18/2006

Thomas Becker

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EXAMINER

GIMIE, MAHMOUD

ART UNIT

PAPER NUMBER

3747

MAIL DATE

DELIVERY MODE

11/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/593,327

Applicant(s)

BECKER, THOMAS

Examiner

Mahmoud Gimie

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 13, 14 and 18-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/18/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 9-12 and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Mattes (US 6,823,846)

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Mattes discloses a fuel injection system for an internal combustion engine, the system comprising a high-pressure (10) side including at least one high-pressure reservoir (12) in which fuel is stored at injection pressure and at least one injector (20) communicating with the high-pressure reservoir, for fuel injection to a cylinder of the engine, a low-pressure (50) side which communicates at least indirectly with a fuel tank (14), and a

Art Unit: 3747

communication (64) between the high-pressure side and the low-pressure side, which communication is controlled as a function of the fuel temperature in the high-pressure side and at a high fuel temperature is at least substantially closed so that the high-pressure side is disconnected from the low-pressure side, and that is open at a low fuel temperature; see col. 3 and ll. 15-32.

Regarding claim 10, further comprising a valve device (64) controlling the communication of the high-pressure side with the low-pressure side, which valve device is influenced by the fuel temperature in the high-pressure side.

Regarding claim 11, wherein the valve device (64) comprises a bimetal-switching device (68) having at least two elements that comprise metals of different coefficients of thermal expansion.

Regarding claim 12, wherein a flow section is opened between the two elements at a low fuel temperature; and wherein at a high fuel temperature, the flow cross-section is at least substantially closed by the element having the greater coefficient of thermal expansion (inherent).

Regarding claim 15, wherein the valve device is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Regarding claim 16, wherein the valve device is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Regarding claim 17, wherein the valve device is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furusawa et al. (5,911,208) in view of Yasuhara et al. (4,478,179). Furusawa discloses a fuel injection system for an internal combustion engine, the system comprising a high-pressure side (35) including at least one high-pressure reservoir (55) in which fuel is stored at injection pressure and at least one injector (56) communicating with the high-pressure reservoir, for fuel injection to a cylinder of the engine, a low-pressure side (39) which communicates at least indirectly with a fuel tank (13), and a communication (41) between the high-pressure side (35) and the low-pressure side (39), which communication is controlled as a function of the fuel temperature (col. 8 and l. 52) in the high-pressure side.

Furusawa does not teach the communication at a high fuel temperature is at least substantially closed so that the high-pressure side is disconnected from the low-pressure side, and that is open at a low fuel temperature.

Yasuhara discloses a temperature-responsive device (19c) that at a high fuel temperature is at least substantially closed so that the high-pressure side is

Art Unit: 3747

disconnected from the low-pressure side, and that is open at a low fuel temperature; see col. 4 and ll. 29-35.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the spill valve (41) of Furusawa with the temperature responsive device of Yasuhara in order to control fuel vapor in the system.

Regarding claim 10, further comprising a valve device (19c) controlling the communication of the high-pressure side with the low-pressure side, which valve device is influenced by the fuel temperature in the high-pressure side.

Regarding claim 11, wherein the valve device (19c) comprises a bimetal-switching device having at least two elements that comprise metals of different coefficients of thermal expansion.

Regarding claim 12, wherein a flow section is opened between the two elements at a low fuel temperature; and wherein at a high fuel temperature, the flow cross-section is at least substantially closed by the element having the greater coefficient of thermal expansion.

Regarding claim 15, wherein the valve device (19c) is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Regarding claim 16, wherein the valve device (19c) is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Art Unit: 3747

Regarding claim 17, wherein the valve device (19c) is disposed in a component in the high-pressure side, preferably in a housing part, a line, or a connection element of a line.

Allowable Subject Matter

5. Claims 13,14 and 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references disclose high-pressure fuel systems have a fuel returns.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 571-272-4841. The examiner can normally be reached on Monday-Friday between 7 a.m. -3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MG



MAHMOUD GIMIE
PRIMARY EXAMINER